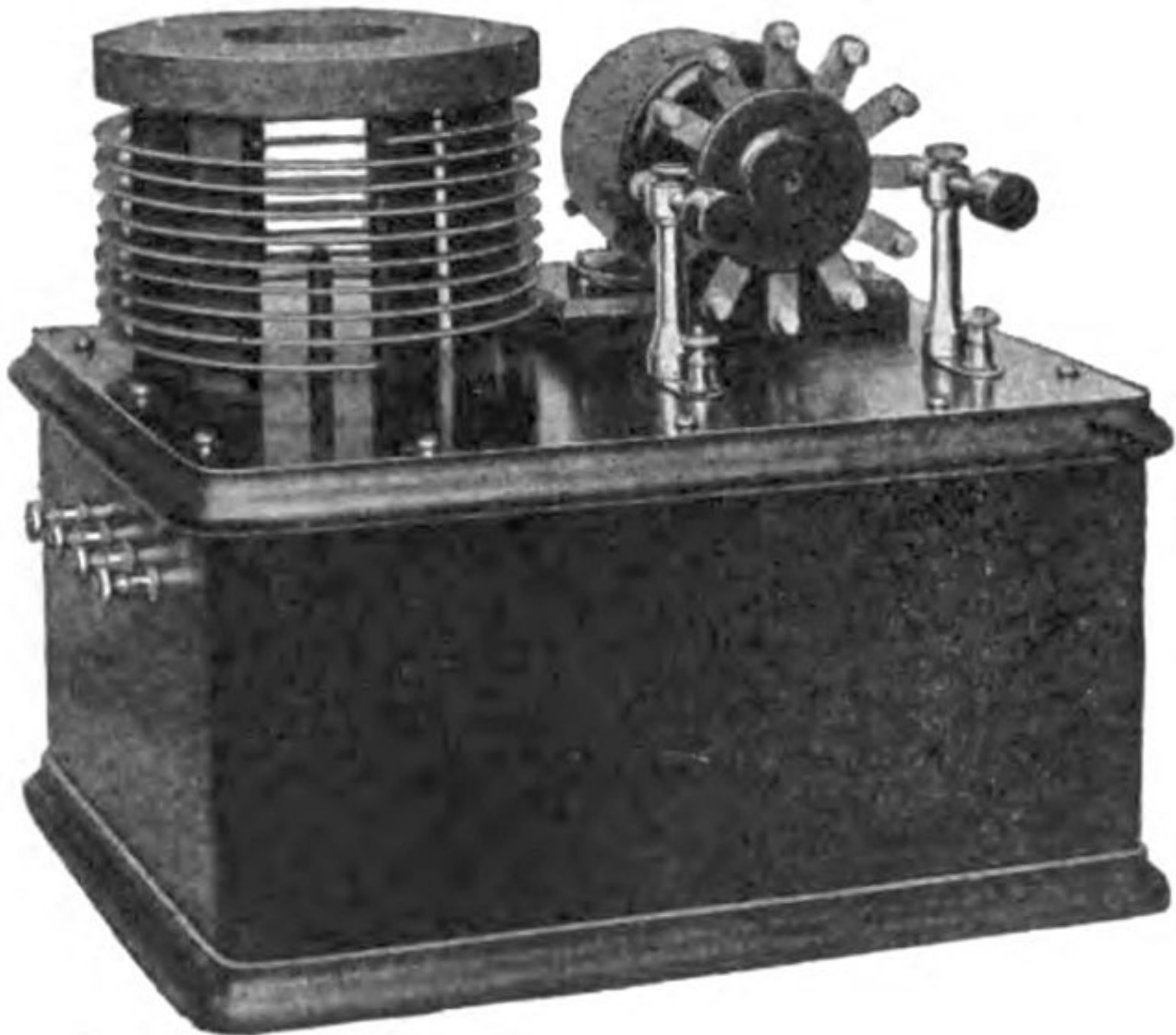


File:Murdock 1 kW rotary gap spark transmitter 1914.jpg



Size of this preview: 690 × 600 pixels.

Original file (919 × 799 pixels, file size: 87 KB, MIME type: image/jpeg)

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Summary

Description **English:** A commercial 1 kilowatt spark gap radio transmitter manufactured by William J. Murdock Co., Chelsea, MA, from advertisement in an early electronics magazine. Spark transmitters, which produced radio waves using an electric spark, were the first type of radio transmitter, used during the wireless telegraphy era 1888 - 1918. This was a low power transmitter marketed to radio amateur hobbyists and schools. The price was \$100. The wooden box contained a high voltage transformer and a capacitor which was charged by the transformer.

The rotary spark gap (*right*) spun by a synchronous motor, discharged the capacitor through the tuning coil (*left*), creating oscillating radio frequency currents, which were applied to a long outdoor wire antenna, which radiated the energy as radio waves. The operator transmitted information by tapping on a telegraph key in the power supply line which turned the transmitter on and off, creating pulses of radio waves which spelled out text messages in Morse code. The advantage of the rotary spark gap was it produced a higher tone of around 1000 Hz in a receiver's earphone which cut through interference better. Also the high separation speed of the electrodes quenched the spark quickly after the energy had been transferred to the antenna, allowing the antenna to oscillate freely, producing very lightly damped, ringing waves, giving the transmitter a narrow bandwidth.

Date March 1914

Source Retrieved 3 May 2018 from *Modern Electrics and Mechanics* magazine, Modern Publishing Co., New York, Vol. 28, No. 3, March 1914, p. 373 on <http://www.americanradiohistory.com>